Planning & Community Development Department
1421 N Meadowwood Lane
Suite 120
Liberty Lake, WA 99019
Phone: (509) 755-6707
Fax: (509) 755-6713
www.cityoflibertylake.com

COLD WEATHER CONCRETE PLACEMENT AND CURING

1. Unless concrete is cured in accordance with Section 1905.11.3 and 1905.12 (High Pressure Steam), it shall be maintained above 50 degrees Fahrenheit and in a moist condition for at least the first seven days after placement, except that high-early strength concrete shall be so maintained for at least the first three days. Supplementary strength tests in accordance with Section 1905.11.3.4 may be required to assure that curing is satisfactory.

2. Only concrete that is prepared by a recognized batch plant where air-entraining or other suitable admixtures and the heating of water and aggregates can be adequately controlled, can be placed in weather where the temperatures drop below 40 degrees Fahrenheit.

3. Adequate equipment shall be provided for protecting the concrete during freezing or near-freezing weather. All concrete materials and all reinforcement, forms, fillers and ground with which the concrete is to come in contact shall be free from frost. No frozen materials or materials containing ice shall be used.

4. It will be the responsibility of the contractor to ascertain the weather forecast for at least three days following the placement of the concrete. When temperatures are predicted to range below 40 degrees Fahrenheit, a heated enclosure or other approved method of protection will be arranged with the Building Inspector.

Exceptions:
(A) Footings for single family and duplex residences may be placed providing provision is made for immediately covering them with straw or insulation blankets sufficient to keep the concrete adequately warm even in zero degree weather.
(B) Foundation walls for single family and duplex residences must be protected with plastic or heavy asphalt-impregnated paper for a minimum period of three days following the placement of the concrete.

Note:
Due to our geographical location, Liberty Lake is classified as a "Severe Weathering Region." The following criteria for the use of normal- weight aggregate concrete is recommended where a building is subject to alternating cycles of freezing and thawing. Increased compressive strength of the concrete for the higher weathering should be considered. Also, air entrainment provides a tougher concrete which is better able to resist the effects of deicing chemicals and freezing and thawing.

RECOMMENDED MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF CONCRETE[1,2] Table A-19-A	
Basement walls and foundations not exposed to weather.	2500[3]
Basement slabs and interior slabs on grade, except garage floor slabs.	2500[3]
Basement walls, foundation walls, exterior walls and other vertical concrete work exposed to the weather.	3000[4]
Porches, carport slabs and steps exposed to the weather, and garage slabs.	3500[4]

[1] Increases in compressive strength above those used in the design shall not cause implementation of the special inspection provisions of Section 1701.5, Item 1.

[2] At 28 days. Pounds per square inch.

[3] Concrete in these locations which may be subject to freezing and thawing during construction shall be air-entrained concrete in accordance with footnote 2.

[4] Concrete shall be air entrained. Total air content (percentage by volume of concrete) shall not be less than 5 percent or more than 7 percent.

For more information or an appointment contact:
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